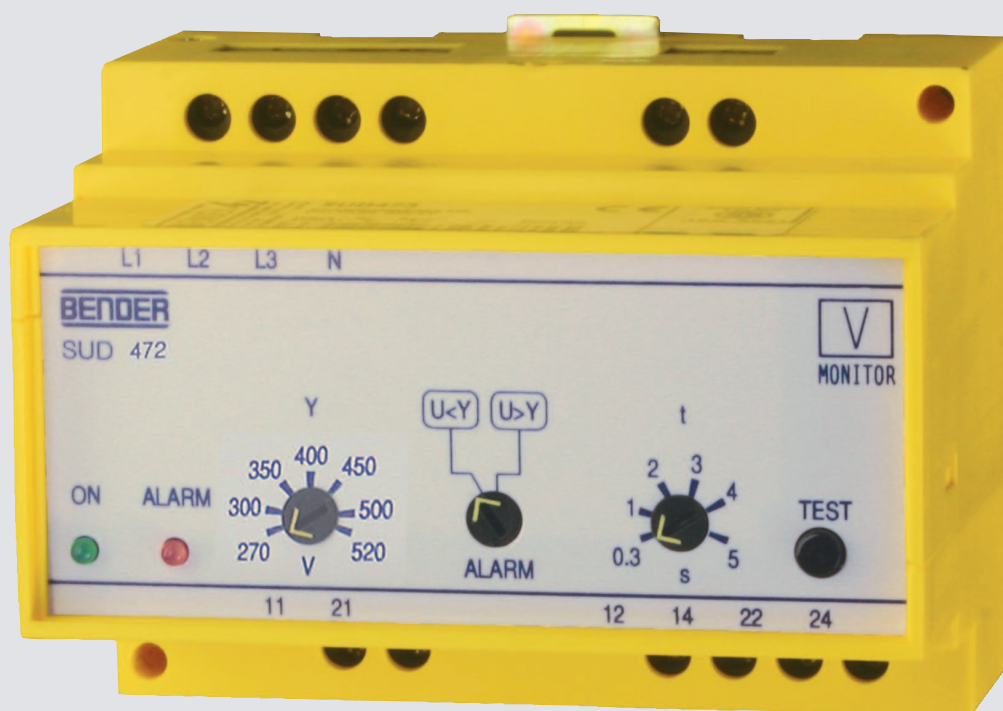


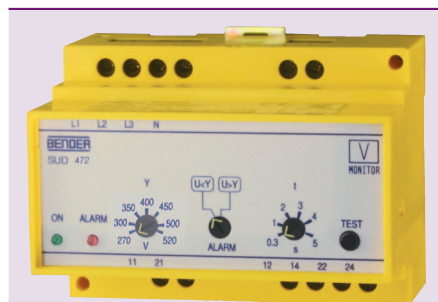
Undervoltage or overvoltage relays SUD472

for 3AC systems



SUD472

Undervoltage or overvoltage relays for 3AC systems without external supply voltage



SUD472

Device features

- Undervoltage and overvoltage monitoring for 3AC systems
- Without external supply voltage
- 3 device variants with adjustable response values
70...140 V (3AC 110...V)
150...300 V (3AC 230...V)
270...520 V (3AC 400...V)
- Response delay 0.3...5 s
- Integrated energy backup
- Test button for functional test
- LEDs: Power On, Alarm
- Alarm relay with two potential-free changeover contacts
- Modular DIN rail enclosure

Note

In case of new installations refer to VMD421H.

Approvals



Product description

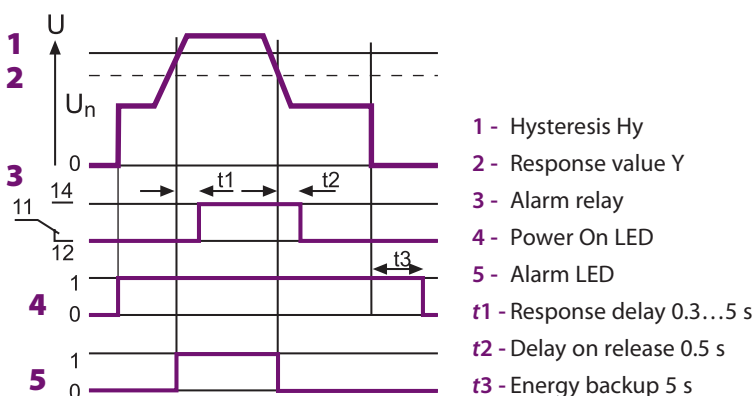
The voltage relays of the SUD472 series are designed to monitor the voltage of three-phase AC systems without N conductor. The devices can be used for undervoltage or overvoltage monitoring. External supply voltage is not required. The response values are set via potentiometers. An integrated energy backup maintains the power supply for five seconds.

Typical applications

- Monitoring of the power supply of motors and electrical installations
- Monitoring of loads
- Switching on and switching off at a certain voltage level
- Monitoring of stand-by and emergency supply systems
- Supply voltage monitoring of portable loads

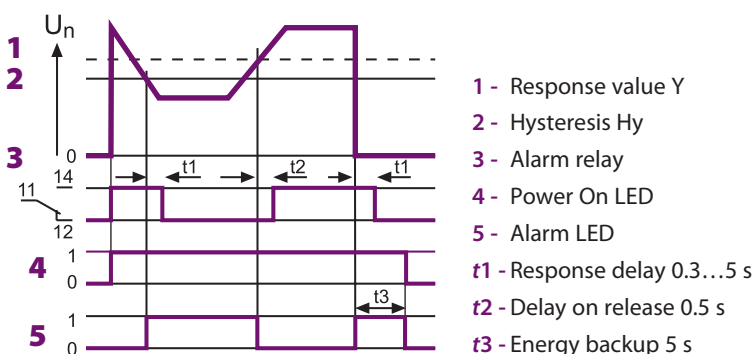
Function overvoltage (switch U>Y)

When supply voltage is applied, the alarm relay works in N/O operation (relay de-energized). When the phase-to-phase voltage of one, two or all conductors exceeds the set response value "Y", the alarm relay energizes and the alarm LED "ALARM" lights up. If the measured quantity drops below the response value plus hysteresis, the alarm relay switches back to its original state.



Function undervoltage (switch U<Y)

When supply voltage is applied, the alarm relay works in N/C operation (relay energized). When the phase-to-phase voltage of one, two or all conductors drops below the set response value "Y", the alarm relay de-energizes and the alarm LED "ALARM" lights up. If the measured quantity exceeds the response value plus hysteresis, the alarm relay switches back to its original state.





Note

False alarms resulting from operational measurement errors can be suppressed by setting a time delay. The set response delay remains effective even in case of complete supply voltage failure.

Standards

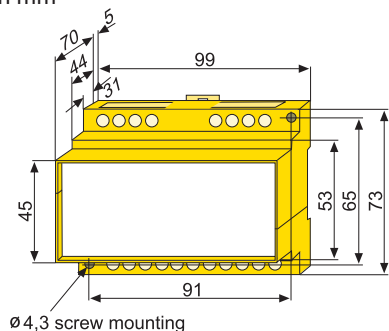
The SUD472 series complies with the requirements of the device standards: IEC 60255-6.

Ordering information

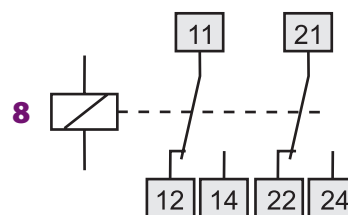
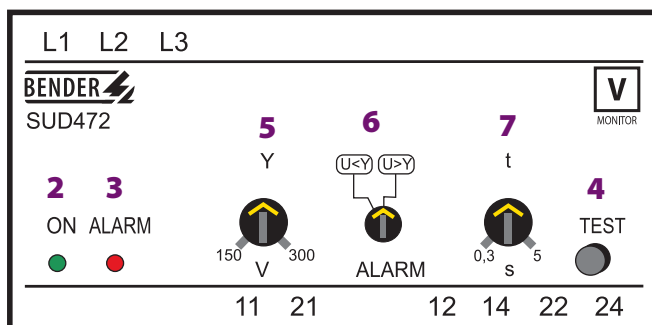
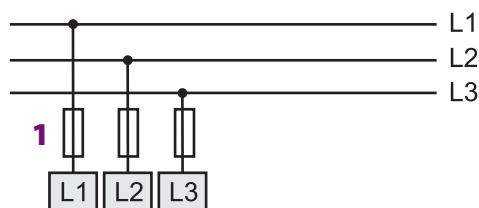
Nominal system voltage U_s	Response value	Type	Art. No.
3AC 110 V	70...140 V	SUD472	B 933 219
3AC 230 V	150...300 V	SUD472	B 933 170
3AC 400 V	270...520 V	SUD472	B 933 702

Dimension diagram X470

Dimensions in mm



Wiring diagram



- 1 - 6 A fuse
- 2 - Power On LED "ON"
- 3 - LED "ALARM"
- 4 - "TEST" button
- 5 - Adjustable response value "Y"
- 6 - Selector switch to choose between undervoltage and overvoltage "U<Y U>Y"
- 7 - Adjustable response delay "t"
- 8 - Alarm relay

Technical data

Insulation coordination acc. to IEC 60664-1

Rated insulation voltage	AC 400 V
Rated impulse voltage/pollution degree	4 kV/3

Supply voltage

Supply voltage U_S	none
Power consumption	≤ 3 VA

Measuring circuit

Nominal system voltage U_n	3AC 110/230/400 V
Response values (L-L)	70...140 V/150...300 V/270...520 V
Frequency f_n	50...400 Hz
Response time t_{an}	< 500 ms
Response delay t_v	0.3...5 s
Hysteresis	2...4 %
Delay on release	approx. 0.5 s
Repitition accuracy	± 1.5 %
Temperature influence	< 0.05 %/°C
Recovery time t_b	0.2 s

Switching elements

Number of changeover contacts	1 x 2
Operating principle overvoltage function	N/O operation
Operating principle undervoltage function	N/C operation
Electrical service life, number of cycles	12000
Contact class IEC 60255 Part 0-20	IIB
Rated contact voltage	AC 250 V/DC 300 V
Limited making capacity	AC/DC 5 A
Breaking capacity	2 A, AC 230 V, $\cos \phi$ 0.4 0.2 A, DC 220 V, L/R = 0.04 s

Environment/EMC

EMC immunity	acc. to IEC 61000-6-2
EMC emission	acc. to IEC 61000-6-4
Shock resistance IEC 60068-2-27 (during operation)	15 g/11 ms
Bumping IEC 60068-2-29 (during transport)	40 g/6 ms
Vibration resistance IEC 60068-2-6 (during operation)	1 g/10...150 Hz
Vibration resistance IEC 60068-2-6 (during transport)	2 g/10...150 Hz
Ambient temperature, during operation	-5...+50 °C
Ambient temperature, during storage	-25...+70 °C
Climatic class acc. to IEC 60721-3-3	3K5 (except condensation and formation of ice)

Connection

Connection	screw terminals
Connection properties:	
single wire	0.2...4 mm ²
flexible with end ferrules	0.25...2.5 mm ²

Other

Operating mode	continuous operation
Mounting	any position
Degree of protection, internal components (IEC 60529)	IP30
Degree of protection, terminals (IEC 60529)	IP20
Screw fixing	2 x M4
DIN rail mounting acc. to	IEC 60715
Flammability class	UL94V-0
Operating manual	BP301009
Weight	≤ 360 g



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